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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,975	12/28/2001	Richard H. Crump	10360-085001/13612BAUS01U	1741

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GUERIN & RODRIGUEZ, LLP
5 MOUNT ROYAL AVENUE
MOUNT ROYAL OFFICE PARK
MARLBOROUGH, MA 01752

EXAMINER

NEURAUTER, GEORGE C

ART UNIT PAPER NUMBER

2143

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/040,975

Applicant(s)

CRUMP ET AL.

Examiner

George C. Neurauter, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,7,9,10,12,13,15,16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,7,9,10,12,13,15,16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claims 1, 3-4, 6-7, 9-10, 12-13, 15-16, and 18-20 are currently presented and have been examined.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 23 January 2006 has been entered.

Response to Arguments

Applicant's arguments filed 23 January 2006 have been fully considered but they are not persuasive.

The Applicant argues that that the cited prior art does not teach or suggest executing a single IP stack to use a mapping array in updating a routing table in accordance with a received control packet. The Examiner is not persuaded by these remarks. The Applicant's admitted prior art discloses wherein an IP stack is contained within a router and the IP stack receives a packet and updates a routing table based on specified protocols (paragraph 0003). In view of Akahane's disclosures regarding the

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determination of a routing table using a mapping array and since both references are directed to routing packets according to routing tables, these limitations would have been obvious to one of ordinary skill in the art and, therefore, the claims are not in condition for allowance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time

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any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1, 3-4, 6-7, 9-10, 12-13, 15-16, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable by US Patent Application Publication 2001/0050914 over Akahane et al in view of Applicant's admitted prior art.

Regarding claim 1, Akahane discloses a method for routing a packet comprising:

dedicating a separate routing table to each domain of a plurality of domains ("virtual private networks") for use in routing packets propagating that domain; receiving the packet from one of the plurality of address domains through one of a plurality of interfaces ("physical interface" or "user line interface"); and determining one of the routing tables for the packet according to a mapping array ("correspondence of one physical interface to one VPN"), the mapping array including pointers that associate the interfaces with the routing tables; (paragraphs 0006 and 0007; see also paragraph 0016).

Akahane does not expressly disclose updating the determined routing table when the received packet is a control packet,

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wherein receiving the packet, determining one of the routing tables, and updating the determined routing table are performed by executing a single IP stack, however, Akahane does disclose determining the one routing table by a router that contains means for receiving and processing IP packets as shown above (see also paragraphs 0006, 0012, and 0039).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Akahane to updating the determined routing table when the received packet is a control packet, wherein receiving the packet, determining one of the routing tables, and updating the determined routing table are performed by executing a single IP stack since the Applicant has admitted that doing so is well known in the prior art for making necessary updates to a routing table when network topology changes (paragraphs 0003 and 0004) and, therefore, one of ordinary skill in the art would have found it obvious to modify the teachings of Akahane to include this subject matter in order to achieve the advantages as admitted by the Applicant.

Regarding claim 3, Akahane and Applicant's admitted prior art disclose the method of claim 1.

Akahane discloses wherein the mapping array associates interfaces connecting to the same address domain with the same

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routing table. (paragraph 0007, specifically "...correspondence of one physical interface to one VPN is required.")

Regarding claim 4, Akahane and Applicant's admitted prior art disclose the method of claim 1:

Akahane discloses further comprising, after the one routing table is determined, forwarding the packet according to the one routing table if the packet is a data packet. (paragraph 0006, specifically "...the VPN edge router...determines the forwarded-to-destination of the packet across the ISP network, and encapsulates the packet...it can forward the packets to their correct destinations...")

Regarding claim 6, Akahane and Applicant's admitted prior art disclose the method of claim 1.

Akahane discloses wherein each of the plurality of address domains represents a virtual private network. (paragraph 0006, specifically "Private IP addresses are often used in intra-corporation networks...private IP address are used in the VPNs...")

Regarding claim 19, Akahane discloses a method for routing a packet, comprising dedicating a separate routing table to each address domain of a plurality of address domains ("virtual private networks"); connecting at least one interface to each address domain of the plurality of address domains; associating

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each interface with one of the separate routing tables; receiving the packet from a given one of the plurality of address domains through a given one of the plurality of interfaces; associating the packets with the given interface through which the packet is received; and selecting one of the separate routing tables for routing the packet based on the given interface with which the packet is associated. (paragraphs 0006 and 0007; see also paragraph 0016)

Akahane does not expressly disclose updating the determined routing table when the received packet is a control packet, wherein receiving the packet, determining one of the routing tables, and updating the determined routing table are performed by executing a single IP stack, however, Akahane does disclose determining the one routing table by a router that contains means for receiving and processing IP packets as shown above (see also paragraphs 0006, 0012, and 0039).

Claim 19 is rejected since the motivations regarding the obviousness of claim 1 also apply to claim 19.

Claims 7-10 and 12 are also rejected since claims 7-10 and 12 recite a router that contain substantially the same limitations as recited in claims 1-4 and 6 respectively.

Claims 13-16 and 18 are also rejected since claims 13-16 and 18 recite a computer program product that contain

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substantially the same limitations as recited in claims 1-4 and 6 respectively.

Regarding claim 20, Akahane and Applicant's admitted prior art disclose the method of claim 19.

Akahane and Applicant's admitted prior art does not expressly disclose wherein the step of associating the packet with the given interface includes inserting an identifier of the given interface into the packet, however, Akahane does disclose wherein the packet is received at a given interface and is associated therewith as shown above regarding claim 19 and Akahane discloses inserting an identifier into an packet (paragraph 0006, specifically "determines the forwarded-to-destination of the packet...and encapsulates the packet").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Akahane and Applicant's admitted prior art in order to insert an identifier of a given interface into a packet since Akahane discloses that the given interface with which the packet is associated determines which VPN that packet belongs to (paragraph 0006). In view of these teachings shown above, one of ordinary skill would have found it obvious to modify the references so that the packet includes the identifier in order

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to allow the determination of the VPN to be done using the identifier included with the packet.

Conclusion

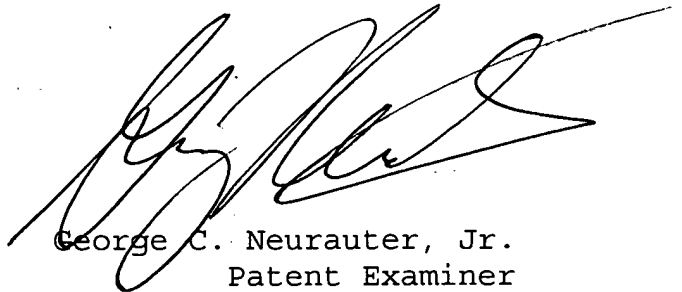
The prior art listed in the PTO-892 form included with this Office Action disclose methods, systems, and apparatus similar to those claimed and recited in the specification, specifically regarding the IP stack as currently argued by the Applicant. The Examiner has cited these references to evidence the level and/or knowledge of one of ordinary skill in the art at the time the invention was made, to provide support for universal facts and the technical reasoning for the rejections made in this Office Action including the Examiner's broadest reasonable interpretation of the claims as required by MPEP 2111 and to evidence the plain meaning of any terms not defined in the specification that are interpreted by the Examiner in accordance with MPEP 2111.01. The Applicant should consider these cited references when preparing a response to this Office Action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Neurauter, Jr. whose telephone number is (571) 272-3918. The examiner can normally be reached on Monday through Friday from 9AM to 5:30PM Eastern.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



George C. Neurauter, Jr.
Patent Examiner